CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/WNo.14/KRIDL/CSR-03/1092h/CEMENT/2015-16 Date: 10.03.2016

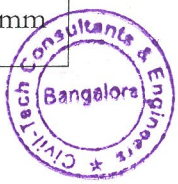
TEST REPORT ON CEMENT

*** CUSTOMER**	:	**Asst. Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.
***AGENCY**	:	**Technical Manager (West),** KRIDL, Bangalore.
***NAME OF THE WORK**	:	Improvements to drains at 1st A Main R/s Defence Colony in Ward No. 14, Bagalagunte, BBMP, Bangalore.
REFERENCE	:	EE/DD/WO/244/2014-15 Dated : 09.02.2015
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	09.03.2016
PERIOD OF TESTING	:	09.03.2016 to 10.03.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	28.00%	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	145 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	470 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.



Note:

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Job No.: CTCE/BBMP/WNo.14/KRIDL/CSR-03/1092h/SAND-Gradation/2015-16 : 10.03.2016

TEST REPORT ON DETERMINATION GRADATION OF MANUFACTURED SAND

*** Customer** : **Asst. Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.

*** Agency** : **Technical Manager (West),** KRIDL, Bangalore.

*** Name of Work** : Improvements to drains at 1st A Main R/s Defence Colony in Ward No. 14, Bagalagunte, BBMP, Bangalore.

Reference : EE/DD/WO/244/2014-15 Dated : 09.02.2015

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Manufactured Sand

Sample Received on : 09.03.2016

Date of Testing : 10.03.2016

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Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	93.77	90-100	90-100	90-100	95-100
2.36	79.01	60-95	75-100	85-100	95-100
1.18	57.58	30-70	55-90	75-100	90-100
600 Micron	28.61	15-34	35-59	60-79	80-100
300 Micron	8.09	5-20	8-30	12-40	15-50
150 Micron	1.25	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

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Remarks : This sample is under Zone-I specific limits.

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Job No.: CTCE/BBMP/WNo.14/KRIDL/CSR-03/1092h/AGG/GR/2015-16 : 10.03.2016

TEST REPORT ON COARSE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.

*** Agency** : **Technical Manager (West),** KRIDL, Bangalore.

*** Name of Work** : Improvements to drains at 1st A Main R/s Defence Colony in Ward No. 14, Bagalagunte, BBMP, Bangalore.

Reference : EE/DD/WO/244/2014-15 Dated : 09.02.2015

Technical Reference : IS : 2386 Part 1 -1963 RA-2007

Sample ID : Coarse Aggregates (40mm)

Sample Received on : 09.03.2016

Date of Testing : 10.03.2016

Total Wt. of Aggregates in gms= **7000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	96.70	95-100	85-100
20	37.30	30-70	0-20
10	14.79	10-35	0-5
4.75	1.76	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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Job No.: CTCE/BBMP/WNo.14/KRIDL/CSR-03/1092h/CC Solid Block/2015-16 : 14.03.2016

TEST REPORT ON CEMENT CONCRETE SOLID BLOCKS

*** Customer** : **Asst. Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.

*** Agency** : **Technical Manager (West),** KRIDL, Bangalore.

*** Name of the Work** : Improvements to drains at 1st A Main R/s Defence Colony in Ward No. 14, Bagalagunte, BBMP, Bangalore.

Reference : EE/DD/WO/244/2014-15 Dated : 09.02.2015

Sample Received on : 09.03.2016

Date of Testing : 14.03.2016

Size of Blocks : 400mm x 200mm x 200mm

Cross Sectional Area : 80000 mm^2

Technical Reference : IS: 2185 (Part 1) - 2005

No. of Blocks Tested : 08

Sl.No.	Block ID	Wt. in Kg	Failure load (KN)	Compressive strength (N/mm^2)	Requirement as per IS 2185 (Part 1) - 2005
1	Block 1	34.56	263.8	3.30	Minimum required Compressive Strength of Individual Units 3.20 N/mm^2
2	Block 2	32.95	266.4	3.33	
3	Block 3	33.42	264.9	3.31	
4	Block 4	33.28	261.7	3.27	
5	Block 5	32.93	265.6	3.32	
6	Block 6	34.85	266.4	3.33	
7	Block 7	32.49	264.7	3.31	
8	Block 8	33.86	266.6	3.33	

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Job No.: CTCE/BBMP/WNo.14/KRIDL/CSR-03/1092h/Precast Slab/2015-16 30.03.2016

CEMENT CONCRETE CORE (PRECAST SLAB) TEST REPORT

* Customer	:	**Asst. Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of work	:	Improvements to drains at 1st A Main R/s Defence Colony in Ward No. 14, Bagalagunte, BBMP, Bangalore.
Reference	:	EE/DD/WO/244/2014-15 Dated : 09.02.2015
Techinical Reference	:	IS:516-1959 (Reaffirmed 2008), SP-24:1983.
Sample ID	:	Precast Slab
Sample Received on	:	25.03.2016
Date of Testing	:	30.03.2016

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Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	76.00	0.375	2512.97	1.52	0.965	32.3	16.42	17.74	17.12	21.40
2	50.00	78.00	0.389	2539.95	1.56	0.960	32.6	16.58	17.91	17.19	21.49
3	50.00	77.00	0.390	2579.55	1.54	0.965	32.9	16.75	18.09	17.45	21.82

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Job No.: CTCE/BBMP/WNo.14/KRIDL/CSR-03/1092h/CUBE/2015-16 25.04.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer**	: **Asst. Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.
*** Agency**	: **Technical Manager (West),** KRIDL, Bangalore.
*** Name of the work**	: Improvements to drains at 1st A Main R/s Defence Colony in Ward No. 14, Bagalagunte, BBMP, Bangalore.
Reference	: EE/DD/WO/244/2014-15 Dated : 09.02.2015
*** Sample ID**	: Cement Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
*** Grade of Concrete**	: M_{15}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 25.04.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	28.03.2016	25.04.2016	8.145	365.4	16.24
2	28.03.2016	25.04.2016	8.292	393.5	17.49
3	28.03.2016	25.04.2016	8.359	376.8	16.75

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